

Position Paper on the smartness indicator for buildings and lighting

Introduction

Since its establishment, LightingEurope has always supported initiatives from the EU that benefit consumers, the environment, and the economy. LightingEurope therefore welcomes and supports the initiative of EU to establish a smartness indicator for buildings.

LightingEurope believes that a smartness indicator should look beyond energy savings, and in addition capture the benefits as regards optimising the use of building space for owners and renters and the benefits in wellbeing and performance for the building occupants. We believe that lighting systems have a special position in buildings to enable these additional benefits, and we therefore promote the use of a dedicated lighting smartness indicator.

Smartness Indicator

Definition of a building smartness indicator

“A certificate or label to show to what extent a building has implemented smart solutions.” This can vary from a basic control level, to a data-enabled smart solution, up to full integration with all building systems, enabling individualised settings and supporting the occupants.

Importance of a building smartness indicator

A smartness indicator will support the reduction of the energy consumption of buildings through its lifetime, and if defined in the right way it will also bring considerable value to owners and users of buildings, stimulating even more energy reduction. Additionally, to make a smartness indicator even more valuable to owners and users of buildings, the smartness indicator should address smartness beyond energy efficiency and should also focus on building space optimisation and wellbeing and performance of occupants. As such, this will result in the reduction of business operating costs (see Figure 1) and increase the value of the property and the stock of Healthy Buildings.¹

¹ LightingEurope, *Healthy Buildings: combining energy efficiency, wellbeing and performance of people* (2017). See:
< www.lightingeurope.org/images/focus-areas/LED/11_LE_HealthyBuilding_Infog.pdf >.

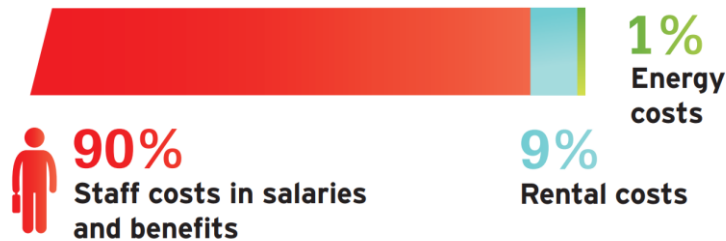


Figure 1: Typical business operating costs²

The smartness aspects that have added value beyond energy efficiency are as follows:

- Data generation by sensors (in or close to luminaires). This allows for the optimisation of building space utilisation, which will result in lower utility bills and better uptake by users;
- Integrating systems to optimise the operation of lighting with other technical building systems creates more productive working environments; and
- Individualised flexibility in all building systems will enable occupants to engage with the building management, working together to reduce the environmental impact and increasing their own wellbeing.
- Smart connected emergency lighting systems allow on-line monitoring of the system status in order to maximise the safety of occupants, for example in case of an evacuation.

Demonstrating that the level of smartness of a building could help to reduce the business operating costs, as shown above, will result in a faster adoption of smart systems in buildings and in a larger building stock with lower energy consumption.

Lighting Smartness Indicator

Definition of a lighting smartness indicator for buildings

“A certificate or label to show to what extent smart lighting solutions have been implemented in a building.” The lighting smartness indicator is a lighting dedicated version of the smartness indicator, also addressing the wellbeing and performance of a building’s occupants.

Importance of a lighting smartness indicator for buildings

In order to improve the wellbeing and performance of the occupants of the building, a lighting system enabling Human Centric Lighting is needed.

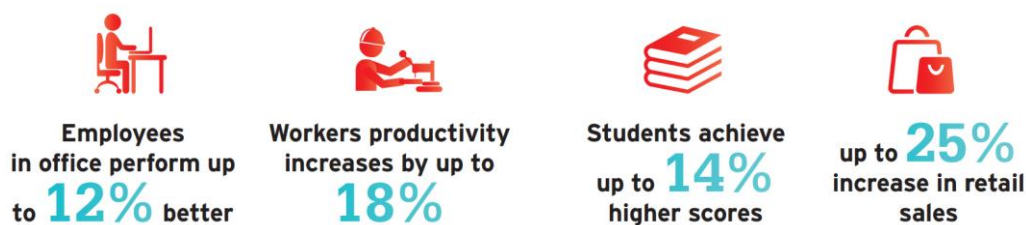


Figure 2: Benefits for people in healthy buildings due to lighting³

² Source: EcoDesign Consultants, *Healthy Buildings* (February 2016). See: < www.ecodesignconsultants.co.uk/healthy-buildings/ >; University of Twente and CBRE, *Healthy Offices Research* (2016). See: < <https://www.cbre.nl/en/healthy-offices-research> >.

³ Source: *Ibid*.

Technical enablers for Human Centric Lighting are:⁴

- Intelligent lighting (including sensors and controls to support dynamics);
- Tuneable white (at least tuneable in light intensity and colour);
- Personal control (allowing personal settings depending on age, gender, chronotype, preference and activity).

LightingEurope recommends that besides a building smartness indicator, there should be a dedicated Lighting Smartness Indicator. Below is a first example of what this lighting smartness indicator could look like. With our members we are currently working on a more detailed mapping, linking levels of smartness with functionalities and benefits for the occupant and user.

Example of a Lighting Smartness Indicator

Level	
Integrated (linked to figure 2 and mainly Staff costs in figure 1)	A
Data enabled (linked to mainly Rental costs in figure 1)	B
Advanced (linked to mainly Energy costs in figure 1)	C
Automated (linked to mainly Energy costs in figure 1)	D
Basic (Smartness)	E

Contact

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LightingEurope is the industry association that represents the lighting industry in Europe. We are the voice of more than 1,000 lighting companies that employ more than 100,000 Europeans and create an annual European turnover of over € 20 billion. Our daily mission is to advocate and defend the lighting industry in Brussels, while reconciling it with ongoing EU policy aims. In doing so, we are dedicated to promoting efficient lighting practices for the benefit of the global environment, human comfort, and the health and safety of consumers. More information is available on: www.lightingeurope.org.

⁴ LightingEurope and IALD, *Joint Position Paper on Human Centric Lighting* (February 2017). See: < www.lightingeurope.org/images/publications/position-papers/LightingEurope_and_IALD_Position_Paper_on_Human_Centric_Lighting_-_February_2017-modified_version-v2.pdf >.